

He reports it in Buffalo not far from his home on Amherst Street. It is interesting to note that at times it is the only orchid in the station, again is on orchid banks where occur *Limnorchis hyperborea*, *Galeorchis spectabilis*, the *Cypripedia*, and *Malaxis monophylla*, which last has proved much more common than was supposed, at least three stations having been found, where it is not infrequent.

We have an abundance of *Cypripedium reginae*, *parviflorum*, *pubescens*, less of *C. acaule* (*C. candidum* was here but has not been found by me), *Galeorchis spectabilis*, occasional *Gymnadeniopsis clavellata* (3 stations in this county), occasional *Blephariglottis lacera* and *Lysias orbiculata*, considerable *Limnorchis hyperborea*, an abundance of *Ibidium plantagineum*, considerable *Corallorrhiza maculata*. Once I have found *Liparis Loeselii*, once *Malaxis unifolia*, and the present September three plants of *Corallorrhiza odontorrhiza*. *Lysias Hookeriana* is well established in two places, over 50 plants in one station and about 40 in another, less than 6 in the third. *Blephariglottis psycodes* is common. Collins is credited also with having *B. peramoena* and *B. fimbriata* formerly, but I have not found them. *Limnorchis dilatata* has been found twice, but not recently, on the Indian Reservation.

Undoubtedly intensive search of the swamps would reveal much more, as to date I have found three not hitherto reported in Erie County, viz, *Malaxis unifolia*, *Gymnadeniopsis clavellata*, *Corallorrhiza odontorrhiza*; and *Lysias Hookeriana* which had been lost to the County for many years.

*Ibidium Romanzoffianum*, *I. gracile* and *Ophrys australis* are credited to Erie County by Dr. House in his Annotated List, published in 1924.

GOWANDA STATE HOSPITAL

SEPTEMBER, 1927

## PROCEEDINGS OF THE CLUB

MEETING OF OCTOBER 11, 1927

This meeting was held in the Children's Room of the Laboratory Building of the Brooklyn Botanic Garden and was called to order at 8:20, with Vice-President Gager in the chair. The

Secretary spoke of the splendid work of the Treasurer, Mrs. H. M. Trelease, in her successful canvass for new members, which has made it possible for the Club to take a long step forward. The following candidates were then elected to membership:

Miss Rosella Ames, Marshfield, Massachusetts.

Miss Lela V. Barton, Box 238, Fayetteville, Arkansas.

Dr. F. E. Denny, Boyce Thompson Institute, Yonkers, New York.

Prof. Carroll W. Dodge, Farlow Herbarium, Harvard University, Cambridge, Massachusetts.

Dr. J. Andrew Drushel, 209 Edgewood Ave., Westfield, N. J.

Mr. Fred W. Emerson, Earlham, Indiana.

Dr. John M. Fogg, Jr., Farlow Herbarium, Harvard University, Cambridge, Massachusetts.

Dr. Eloise Gerry, U. S. Forest Products Lab., Madison, Wis.

Mr. Robert Hagelstein, 165 Cleveland Avenue, Mineola, N. Y.

Dr. L. F. Heimlich, Valparaiso University, Valparaiso, Ind.

Prof. C. H. Kauffman, 1236 Prospect St., Ann Arbor, Mich.

Prof. B. F. Lutman, 111 N. Prospect St., Burlington, Vt.

Prof. Thomas H. MacBride, The Wilsonian, Seattle, Wash.

Prof. Aven Nelson, University of Wyoming, Laramie, Wyoming.

Dr. Alice M. Ottley, 46 Dover Road, Wellesley, Mass.

Mr. Charles S. Parker, 321 11th Street, N. E., Washington, D. C.

Dr. Norma E. Pfeiffer, Boyce Thompson Institute, Yonkers.

Prof. A. Reginald Prince, Box 427, Truro, Nova Scotia, Canada.

Dr. H. E. Pulling, Wellesley College, Wellesley 81, Mass.

Miss Ethel Savacool, 155 West 65th St., New York City.

Miss Marjorie Swabey, Brooklyn Bot. Garden, Brooklyn, N. Y.

Prof. T. W. Turner, Hampton Normal & Agric. Inst., Hampton, Va.

Dr. Leva B. Walker, University of Nebraska, Lincoln, Neb.

Dr. Elda R. Walker, University of Nebraska, Lincoln, Neb.

Dr. Lewis E. Wehmeyer, 51 Prentiss St., Cambridge, Mass.

Prof. Alice W. Wilcox, Brenau College, Gainesville, Georgia.

The Secretary reported that the committee consisting of the

officers of the Club appointed at the last meeting to select representatives for Section G of the American Association for the Advancement of Science, had chosen Dr. R. A. Harper of Columbia University and Dr. J. Arthur Harris of the University of Minnesota. This selection was ratified by unanimous vote of the Club.

In the discussion as to the method of selection of these representatives in the future, it was brought out that the present Constitution gives no authority for the selection of a representative in the Council of the New York Academy of Sciences. It was therefore voted that the method of appointment of all these delegates be left to a committee consisting of the officers of the Club for future report. The Secretary read the amendments to the Constitution proposed by Dr. Barnhart at the Meeting of March 30 and by Dr. Britton at the Meeting of April 27.

Miss Nicholson reported on her recent visit to Montauk Park, Long Island, and to the Arnold Arboretum. At the former place the fields were vividly colored by asters and goldenrod. Mr. Taylor spoke of his botanical survey during the past summer of Alleghany State Park, a tract of 65,000 acres south of Buffalo, New York, perhaps 75% of which is trackless forest. Very few fires have occurred here, and as a result of this combined with frequent rains, the humus is deep. The maximum temperature in July and Aug. was 76° this year in the Birch-Beech Maple forest, and was often comparatively low at night—between 35 and 40°. There is much of the Beech-Birch-Maple association with a little Hemlock intermixed. White pine was cut out years ago, but there is some fir. Many plants not found in the Greater New York region, or only rarely so, are abundant there, e. g. *Monarda didyma*, *Rudbeckia laciniata*, *Hydrophyllum canadense*. Dr. Cheney mentioned the very comprehensive collection of trees at Letchworth Park, N. Y. Near the falls there is a unique stand of timber with some individuals of great age. He remarked on the abundance of the common Forget-me-not (*Myosotis scorpioides* L.) in the roadside gutters on the outskirts of Alfred, New York. Dr. Gundersen reported on the plants on the summit of Black Dome, Greene Co., N. Y. 3990 ft., where 26 species of vascular plants were found the past summer. It is interesting to note, he said, that of the maples,

only *Acer spicatum* occurs here, while on the summit of Black Head nearby and 50 ft. lower, both *A. spicatum* and *pennsylvanicum* occur. This corresponds to the general distribution of these two maples, *A. pennsylvanicum* being a slightly more southern form. The Secretary announced the presence of *Dasyscypha Willkommii*, the cause of the canker of the European Larch on European Larch at Hamilton, Mass. The fungus had evidently been present in this plantation for many years. Mr. Beals spoke of his visit to Dr. Gundersen's farm in the Catskills and also of a trip to Green Pond near Belvidere, New Jersey, to find the Showy Orchis. He was unsuccessful, but found *Arethusa bulbosa*. *Camptothecium nitens*, which grows in cold bogs, was found near Sparta, between Pine Hill and Lake Hopatcong. He reported *Tetraplodon bryoides* and *angustata* on animal dung in the region of Mt. Wittenberg in the Catskills. He mentioned the great activity of the British Bryological Society in the study of mosses and hepatics, and outlined its excellent system of exchanges.

Dr. Gager, alluding to his recent European trip, told of the subtropical vegetation at Cornwall and Devon—large *Dracaenas* and *Fuchsias*, and two or three species of palms out-of-doors, also the Monkey Puzzle tree, which is not hardy here. The moss house at Glasgow was a most interesting sight—also the fern house, founded by Sir William Hooker.

ARTHUR H. GRAVES,  
Secretary.

#### MEETING OF OCTOBER 26, 1927

This meeting was held at the Museum Building of the New York Botanical Garden. The minutes of the meeting of October 11 were read and approved. The following candidates were unanimously elected to membership:

Mrs. Lewis H. Mounts, Ballard Normal School, Macon, Georgia.

Dr. Harold St. John, State College of Washington, Pullman, Washington.

Dr. Albert R. Sweetser, Botanical Dept., University of Oregon, Eugene, Oregon.

The amendment to Article XVIII of the Constitution, relating to the time and place of club meetings, proposed by Dr. Britton

at the meeting of April 27, was read by the Secretary, who reported that the committee consisting of the President, Dr. Trelease, and the Secretary was favorable to its adoption. By this amendment the first part of Article XVIII, which formerly read: "The regular meetings of the Club shall be held on the second Tuesday and the last Wednesday of each month from October to May inclusive, at such hour and place as the Club may direct," is to be changed to read as follows: "Unless otherwise determined by the Club, the regular meetings shall be held on the second Tuesday and the last Wednesday of each month from October to May inclusive, except the last Wednesdays of November and December, at such hour and place as the club may direct." On the motion of Dr. Hollick it was unanimously voted by the Club that the Secretary be requested to cast a ballot for the adoption of this amendment.

With regard to the propositions of Dr. Barnhart made at the meeting of March 30, the Secretary reported that the above-named committee was unfavorable to their adoption. As a result of a separate ballot on each proposition the majority was against adoption in each case.

The Secretary reported that the committee composed of the officers of the Club, to whom the method of election of a delegate to the Council of the N. Y. Academy of Sciences and representatives on the Council of the A.A.A.S., had been referred, offered the following amendment to Article III of the Constitution: to omit the word "and" before "a Bibliographer" and add after Bibliographer, the words, "one delegate to the Council of the N. Y. Academy of Sciences, and two representatives in the Council of the American Association for the Advancement of Science." Several members felt that it was incorrect to thus class the delegates to these Societies as officers of the Club, and after some discussion it was voted by the Club, on the motion of Dr. Hollick, that the proposed amendment be referred back to the same committee of the officers of the Club with the suggestion that the proposition be placed in the form of a By-law instead of an amendment to the Constitution.

The Club then listened to an interesting talk by Mr. E. B. Matzke of Columbia University, on Cell Form.

Many of the single celled plants and animals are spherical in shape, or more or less so at least; and this form is assumed

because in that way the greatest volume is attained with the least surface area. What then is the form assumed by cells in aggregates, as in tissues?

If four spheres are placed at equal intervals about a central one, so that the centers of all of them are in the same plane, and then one is placed directly above and one directly below the central one, there will be six surrounding the central one. If now equal pressure is applied to all the surrounding spheres the central one will assume the form of a cube. The familiar "cannonball" stacking of spheres, with six surrounding a central one, all with their centers in one plane, and then three above and three below, gives rise to the rhombic dodecahedron. The cube does not give economy of space per unit of volume; and the rhombic dodecahedron is objectionable because of its tetrahedral angles. Kelvin, having studied the investigations of Plateau, on soap films, decided that tetrahedral angles were unstable. To overcome this objection he described a fourteen-sided figure, six surfaces of which are quadrilateral and eight hexagonal; this he called a tetrakaidecahedron. If all the quadrilaterals are squares and all the hexagons regular hexagons, and the sides of the squares and hexagons all equal, the figure is an "orthic tetrakaidecahedron."

The recent investigations of Lewis show that the economy of surface per unit of volume is greater for the tetrakaidecahedron than for the rhombic dodecahedron.

Lewis, studying cells of elder pith, found that the average number of surfaces for one hundred cells was 13.96; and the average for one hundred cells of human adipose tissue was 14.01, suggesting very strikingly that cells in undifferentiated tissue tend to be tetrakaidecahedra.

Recent criticisms of this work, stating that orthic tetrakaidecahedra will not fill space when stacked together, can be answered first, by demonstrating geometrically that these figures will fill space—and this has been done—and secondly by making models and stacking them together.

The space-lattice concept, developed by crystallographers, can be extended to tissues and tissue systems. If cells are represented by a point or points, as for instance the center of gravity of each cell, or a similar point on each surface of the cell wall, a pattern of points is revealed, similar in many respects

to the space-lattices of the crystallographers. Different tissues would in many instances at least reveal different patterns, and several tissues closely associated would show interpenetrating space-lattices.

The geometrical demonstration of the fact that orthic tetra-kaidecahedra will fit together without voids has been presented by Mr. Matzke in the April number of the Bulletin, pp. 341-348.

ARTHUR H. GRAVES,  
*Secretary.*

### NEWS NOTES

Dr. Benjamin Dayton Jackson, author of the *Index Kewensis* and curator of the Linnean Collections died as the result of an automobile accident on October twelfth. Dr. Jackson was in his eighty-second year.

The National Geographical Society is arranging an expedition to the Pavlof volcanic group of islands off the Alaskan Peninsula for next April. The expedition, which will be headed by Dr. Thomas Jaggar of the United States Geological Survey at Mount Kilauea in Hawaii, will study the volcanology, physiography, wild life and botany of the islands.

Dr. Orland E. White, formerly of the Brooklyn Botanic Garden, has returned from Europe to begin his new work as professor of agricultural biology at the University of Virginia. While in Europe Dr. White read a paper on "Mutation, Adaptation, Temperature Differences and Geographical Distribution of Plants" before the Fifth International Congress of Genetics at Berlin. (*Science*).

Dr. Julia Warner Snow, associate professor of botany at Smith College and a specialist in fresh-water algae, died on October 24.

Two prizes, founded by the late Dr. William Johnson Walker, are annually offered by the BOSTON SOCIETY OF NATURAL HISTORY, of Boston, Mass. for the best memoirs written in the English language, on subjects proposed by the Board of Trustees.

For the best memoir presented a prize of sixty dollars may be awarded; if, however, the memoir be one of marked merit,